UNITED STATES PATENT AND TRADEMARK OFFICE

NOTICE OF ALLOWANCE AND FEE(S) DUE

7590   07/14/2010

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EXAMINER
LEE, ANDREW CHUNG CHEUNG

ART UNIT	PAPER NUMBER
2476	

DATE MAILED: 07/14/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/704,936	11/02/2000	Lee A Neitzel	06005/35528	4816

TITLE OF INVENTION: MULTIPLEXED DATA TRANSMISSIONS THROUGH A COMMUNICATION LINK

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$0	$0	$1510	10/14/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

Complete and send this form, together with applicable fee(s), to: <u>Mail</u> Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or <u>Fax</u> (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

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nonprovisional	NO	$1510	$0	$0	$1510	10/14/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
LEE, ANDREW CHUNG CHEUNG	2476	370-468000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE   (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.   ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 562 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 562 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

	Application No.	Applicant(s)
Notice of Allowability	09/704,936	NEITZEL ET AL.
	Examiner	Art Unit	
	Andrew C. Lee	2476	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendment dated 06/21/2010*.

2. ☒ The allowed claim(s) is/are *1,4-16,58;17,18,22-28,59-61; 29-32,34-37,62;38-41,43-48,63;49,50,52-56,64 renumbered 1-55*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>6/21/2010</u>

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

/Andrew C Lee/
Examiner, Art Unit 2476

DETAILED ACTION

Allowable Subject Matter

1.   Claims 1,4-16,58;17,18,22-28,59-61; 29-32,34-37,62;38-41,43-48,63;49,50,52-

56,64 renumbered 1-55 are allowed.

2.   The following is an examiner's statement of reasons for allowance:

The prior art made of record, in single or in combination, does not disclose explicitly

the limitations of:

"associating each one of a plurality of worker objects for each one of the plurality of

communication connections, wherein each worker object comprises an abstraction that

represents collections of methods or processes and each worker object is encapsulated

along with data needed to carry out the method or process of the worker object;

distributing the data amongst the worker objects; forming messages using the distributed

data within each respective worker object of the plurality of worker objects, based on a

parameter of the respective worker object; wherein a first worker object has a first

parameter value configured to establish a first respective predetermined portion of the

bandwidth and a second worker object has a second parameter value configured to

establish a second respective predetermined portion of the bandwidth which is different

from the first respective predetermined portion of the bandwidth; delivering the messages

formed within each worker object to an underlying layer of the plurality of communication

connections so that each communication connection uses no more than the respective

predetermined portion of the bandwidth; and allocating the predetermined portion of the

bandwidth to each of the plurality of communication connections." as disclosed in Claim 1.

"a plurality of worker objects, wherein each worker object is associated with one of

the plurality of communication connections and is configured to form messages using the

data distributed to the communication connection associated with that worker object

based on a parameter of that worker object, and wherein each worker object comprises an

abstraction that represents collections of methods or processes and each worker object is encapsulated along with data needed to carry out the method or process of the worker object, wherein a first worker object has a first parameter value configured to establish a first respective predetermined portion of the bandwidth and a second worker object has a second parameter value configured to establish a second respective predetermined portion of the bandwidth which is different from the first respective predetermined portion of the bandwidth, and wherein each worker object is configured to deliver the messages formed within that worker object to an underlying layer of the plurality of communication connections so that each communication connection uses no more than the respective predetermined portion of the bandwidth allocated to that communication connection." as disclosed in Claim 17.

"a plurality of worker processes, wherein each one of the plurality of worker processes is configured to have a set of uniquely configurable communication parameters, is configured to receive the partitioned data from the communication process, is configured to form messages using the partitioned data, is configured to deliver the messages containing the partitioned data to an underlying layer of the plurality of communication connections based on the set of uniquely configurable communication parameters for that worker process, and is configured as an abstraction that represents collections of methods or processes, each worker process encapsulated along with data needed to carry out the method or process of the worker process, wherein a first worker object has a first parameter value configured to establish a first respective predetermined portion of the bandwidth and a second worker object has a second parameter value configured to establish a second respective predetermined portion of the bandwidth which is different from the first respective predetermined portion of the bandwidth." as disclosed in Claim 29.

"a communication station having a processor and a memory communicatively coupled to the processor, wherein the processor is programmed to provide a plurality of worker objects, wherein each one of the plurality of worker objects is configured to form

messages using one of a plurality of partitioned data streams, to produce a separate communication connection through the communication link, and configured as an abstraction that represents collections of methods or processes, each worker object encapsulated along with data needed to carry out the method or process of the worker object, wherein a first worker object has a first parameter value configured to establish a first respective predetermined portion of the bandwidth and a second worker object has a second parameter value configured to establish a second respective predetermined portion of the bandwidth which is different from the first respective predetermined portion of the bandwidth, and wherein each of the plurality of worker objects includes a set of communication connection parameters that are uniquely configurable to determine the manner in which the messages are sent by each of the plurality of worker objects to an underlying layer of the communication link." as disclosed in Claim 38.

"associating each one of a plurality of worker processes to each one of a plurality of communication connections, wherein each one of the plurality of worker processes is configured to receive data, messages of the data, to send the messages containing the data to an underlying layer of the communication link having a bandwidth, and configured as an abstraction that represents collections of methods or processes, each worker process encapsulated along with data needed to carry out the method or process of the worker process; uniquely configuring a set of communication connection parameters uniquely associated with each of the plurality of worker processes; producing a separate communication connection for each one of the plurality of worker processes, wherein a first worker object has a first parameter value configured to establish a first respective predetermined portion of the bandwidth and a second worker object has a second parameter value configured to establish a second respective predetermined portion of the bandwidth which is different from the first respective predetermined portion of the bandwidth; and delivering the messages from at least one of the plurality of worker processes to the underlying layer for transmission through the communication link based on the respective set of communication connection parameters uniquely associated with the at least one of the plurality of worker process." as disclosed in Claim 49.

3.   Additionally, all of the further limitations in claims 4-16,58; 18,22-28,59-61; 30-32,34-37,62;39-41,43-48,63; 50,52-56,64 are allowable since the claims are dependent upon the Independent claims, respectively.

4.   Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571)272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-9199 (IN

USA OR CANADA) or 571-272-1000.

/Andrew C Lee/   /Ayaz R. Sheikh/
Examiner, Art Unit 2476   Supervisory Patent Examiner, Art
<4Q10:7_09_10>   Unit 2476